

AQUATIC MALACOSTRACA RECORDED FOR ILLINOIS, WITH
NOTES ON THEIR DISTRIBUTIONS AND HABITATS WITHIN THE STATE

Lawrence M. Page
Illinois Natural History Survey, Urbana 61801

Abstract.—Fifty-three species of aquatic Malacostraca have been recorded for Illinois, four erroneously. For each species are given citations to its occurrence in Illinois, a synonymy, its type-locality, and its range and habitat in Illinois.

The subclass Malacostraca includes the larger crustaceans which, except for the terrestrial isopods, are all aquatic. Illinois Malacostraca include sow bugs (Isopoda), scuds (Amphipoda), freshwater shrimps and crayfishes (Decapoda). The opossum shrimp, *Mysis relicta*, has apparently not been recorded from Illinois, although it is known from the deep waters of the Great Lakes including Lake Michigan (Smith 1874, Ricker 1959).

The following 53 species (including four erroneously recorded), including 13 isopods, 20 amphipods, and 20 decapods, are believed to comprise a complete list of the aquatic Malacostraca recorded for Illinois. Given for each species are a synonymy (alternative names used in the literature for the Illinois fauna), citations to its occurrence in the state, its type-locality, and a statement about its range and habitat in Illinois. Only those publications actually citing Illinois are listed.

This list should be useful to persons involved in the identification of aquatic organisms and the preparation of environmental impact statements in Illinois. A permanent collection of Malacostraca is maintained at the Illinois Natural History Survey, and donations of specimens to the Survey will be greatly appreciated.

Thirteen species of aquatic Malacostraca were originally described from specimens collected in Illinois. Three species were described from Union County: *Asellus brevicauda* Forbes 1876, *Asellus intermedius* Forbes 1876, and *Oreoneates illinoiensis* Brown 1956, three from Monroe County: *Asellus packardii* (Mackin and Hubricht 1940), *Gammarus acherondytes* Hubricht and Mackin 1940, and *Gammarus troglophilus* Hubricht and Mackin 1940, two from McLean County: *Baeterrus mucronatus* (Forbes 1876) and *Procambarus gracilis* (Bundy 1876), and one each from Champaign County: *Asellus kendelighi* Steeves and Seidenberg 1971, St. Clair County: *Asellus spatulata* (Mackin and Hubricht 1940), Knox County: *Apocrangonyx lucifugus* (Hay 1882), Jackson County: *Apocrangonyx subtilis* Hubricht 1943, and Marshall County: *Oreoneates immunis* (Hagen 1870).

ORDER ISOPODA

FAMILY ASELLIDAE

Asellus brevicauda Forbes 1876

Asellus brevicauda Forbes 1876, Underwood 1886, Richardson 1900, Van Name 1936, 1940, Nicholas 1960.

Asellus brevicaudus: Mackin and Hubricht 1938.

Asellus brevicauda brevicauda: Williams 1970, 1972.

Originally described from "clear, rocky hills in Jackson and Union counties in Southern Illinois" (Forbes 1876), the type-locality of *Asellus brevicauda* was restricted to Union County, Illinois, by Williams (1970). Known in Illinois with certainty only from Union, Monroe, and St. Clair counties (Williams 1970).

Asellus communis Say 1818

Asellus communis: Hay 1882, Underwood 1886, Richardson 1900, Mackin and Hubricht 1938, Van Name 1940.

Asellus communis is a species of the eastern United States (Williams 1970) erroneously reported from Illinois by Hay in 1882 and by several subsequent investigators.

Asellus forbesi Williams 1970

Asellus forbesi: Hubert and Krull 1973.

Recently described from Culpeper County, Virginia, *Asellus forbesi* has been recorded in Illinois only from a flooded bottomland in Jackson County.

Asellus intermedius Forbes 1876

Asellus intermedius Forbes 1876, Hay 1878, Underwood 1886, Richardson 1900, Van Name 1936, Williams 1970, 1972.

Originally described from "the hill-country of southern Illinois, under stones in small streams" (Forbes 1876), Williams (1970) restricted the type-locality of *Asellus intermedius* to Callahan Creek, Cobden, Union County, Illinois. The species is widely distributed in Illinois (Williams 1970).

Asellus kendeighi Steeves and Seidenberg 1971

Asellus kendeighi Steeves and Seidenberg 1971.

Asellus kendeighi is known at present only from the type-locality, a drainage ditch with a subterranean source three miles north of Mayview, Champaign County, Illinois.

Asellus packardi (Mackin and Hubricht 1940)

Caecidotea packardi Mackin and Hubricht 1940, Van Name 1942, Nicholas 1960.

Originally described from Monroe County, Illinois, *Asellus packardi* is recorded in Illinois only from cave streams in Monroe and St. Clair counties.

Asellus spatulata (Mackin and Hubricht 1940)

Caecidotea spatulata Mackin and Hubricht 1940, Van Name 1942, Nicholas 1960.

Asellus spatulata is known in Illinois only from temporary pools at the type-locality in St. Clair County.

Asellus stygius (Packard 1871)

Asellus stygius: Forbes 1876, Underwood 1886, Steeves 1963.

Caecidotea stygia: Richardson 1900, Van Name 1936, Nicholas 1960.

Originally described as *Caecidotea stygia* from Mammoth Cave, Edmonson County, Kentucky, *Asellus stygius* is known in Illinois with certainty only from subterranean waters in Monroe County (Steeves 1963) although depicted by Steeves (1966) as occurring across southcentral Illinois.

Asellus tridentatus (Hungerford 1922)

Asellus tridentatus: Dexter 1954.

Originally described from a cistern in Lawrence, Kansas, *Asellus tridentatus* is a subterranean species recorded in Illinois only from a headwater drainage stream in Champaign County.

Lirceus fontinalis Rafinesque 1820

Mancasellus macrourus: Van Name 1940.

Lirceus fontinalis: Hubricht and Mackin 1949, Williams 1972, Hubert and Krull 1973.

Originally described from springs and small streams near Lexington, Kentucky, *Lirceus fontinalis* has been recorded in Illinois with certainty only from Champaign, Clark, and Johnson counties.

Lirceus garmani Hubricht and Mackin 1949

Lirceus garmani: Dexter 1954.

Lirceus garmani was described from Cedar County, Missouri, and is recorded in Illinois only from a headwater stream in Champaign County.

Lirceus lineatus (Say 1818)

Mancasellus danielsi: Van Name 1936.

Lirceus lineatus: Hubricht and Mackin 1949, Williams 1972.

Described as *Asellus lineatus* from swamps in South Carolina, *Lirceus lineatus* was recorded by Hubricht and Mackin (1949) from Fox Lake in Lake County, Illinois.

Lirceus louisianae (Mackin and Hubricht 1938)

Lirceus louisianae: Hubricht and Mackin 1949, Williams 1972.

Recorded in Illinois only from Union County, *Lirceus louisianae* was described originally from a small creek in Natchitoches Parish, Louisiana.

ORDER AMPHIPODA

FAMILY HAUSTORIIDAE

Pontoporeia affinis (Lindström 1855)

Pontoporeia hoyi: Forbes 1876.

Pontoporeia filicornis: Forbes 1876.

Pontoporeia: Eggleton 1936.

An inhabitant of deep, cold lakes and described originally from Europe, *Pontoporeia affinis* is probably restricted in Illinois to Lake Michigan (Forbes 1876, Pennak 1953).

FAMILY HYALELLIDAE

Hyalella azteca (Saussure 1858)

Hyalella dentata: Forbes 1876.

Allorchestes dentatus: Underwood 1886.

Hyalella knickerbockeri: Weckel 1907.

Hyalella azteca: Hubricht and Mackin 1940, Hubricht 1943.

Originally described from Veracruz, Mexico, *Hyalella azteca* is widespread in Illinois and found in a variety of aquatic habitats.

FAMILY TALITRIDAE

Talitrus alluaudi Chevre: 1896

Talitrus alluaudi: Hubricht and Mackin 1940.

An Old World species, *Talitrus alluaudi* has been recorded from greenhouses on the University of Illinois campus in Champaign County (Hubricht and Mackin 1940).

FAMILY GAMMARIDAE

Apocrangonyx lucifugus (Hay 1882)

Crangonyx lucifugus Hay 1882, Underwood 1886.

Apocrangonyx lucifugus: Nicholas 1960, Holsinger 1969, 1972.

Originally described from a well in Abingdon, Knox County, Illinois, *Apocrangonyx lucifugus* is known only from the type-locality.

Apocrangonyx subtilis Hubricht 1943

Apocrangonyx subtilis Hubricht 1943, Nicholas 1960, Holsinger 1969, 1972.

Distributed in Illinois in seeps and cave pools from Adams County south-southeastward to Union County (Holsinger 1972), *Apocrangonyx subtilis* was originally described from Jackson County, Illinois.

Bactrurus brachycaudus Hubricht and Mackin 1940

Bactrurus brachycaudus Hubricht and Mackin 1940, Hubricht 1943, Nicholas 1960, Holsinger 1972.

Originally described from St. Louis County, Missouri, *Bactrurus brachycaudus* is distributed in streams, seeps, and springs in southwestern Illinois (Holsinger 1972).

Bactrurus mucronatus (Forbes 1876)

Crangonyx mucronatus Forbes 1876, Underwood 1886.

Eucrangonyx mucronatus: Weckel 1907.

Bactrurus mucronatus: Hubricht 1943, Shoemaker 1945, Nicholas 1960, Holsinger 1972.

Bactrurus mucronatus was originally described from McLean County, Illinois, and is distributed in drains, wells, and caves in central, eastern, and southeastern Illinois (Holsinger 1972).

Crangonyx forbesi (Hubricht and Mackin 1940)

Eucrangonyx forbesi Hubricht and Mackin 1940.

Crangonyx forbesi: Hubricht 1943, Bousfield 1958, Nicholas 1960, Holsinger 1972, Hubert and Krull 1973.

Described originally from St. Louis County, Missouri, *Crangonyx forbesi* is found in springs, streams, and ponds in southwestern Illinois (Holsinger 1972).

Crangonyx gracilis Smith 1871

Crangonyx gracilis: Forbes 1876, Hay 1882, Underwood 1886.

Eucrangonyx gracilis: Weckel 1907, Hubricht and Mackin 1940.

Crangonyx gracilis gracilis: Hubricht 1943.

Originally described from Lake Superior, Ontario, *Crangonyx gracilis* has been reported from Illinois by numerous investigators; however, the systematics of this species are in doubt and the distribution in Illinois is uncertain.

Crangonyx minor Bousfield 1958

Crangonyx minor: Holsinger 1972.

Described from material collected in Oxford County, Ontario, *Crangonyx minor* is distributed in a variety of habitats in central, western, and southern Illinois (Holsinger 1972).

Crangonyx obliquus (Hubricht and Mackin 1940)

Crangonyx obliquus: Hubricht 1943, Bousfield 1958.

Originally described from Johnson County, Arkansas, and subsequently recorded from Illinois, the systematics of *Crangonyx obliquus* are badly in need of investigation and the distribution of this species in Illinois is unknown (Holsinger 1972).

Crangonyx packardii Smith 1888

Crangonyx gracilis packardii: Hubricht 1943.

Crangonyx packardii: Holsinger 1972.

Crangonyx packardii was originally described from Orange or Lawrence County, Indiana. Although the distribution is uncertain, this or a closely related subterranean species occurs in southern Illinois (Holsinger 1972).

Crangonyx pseudogracilis Bousfield 1958

Crangonyx pseudogracilis: Holsinger 1972.

Originally described from Lennox and Addington counties, Ontario, the distribution of *Crangonyx pseudogracilis* in Illinois is uncertain. The species is known at present from rivers, lakes, sloughs, and ponds in small areas of east-central and west-central Illinois (Holsinger 1972).

Crangonyx shoemakeri (Hubricht and Mackin 1940)

Crangonyx shoemakeri Hubricht and Mackin 1940, Hubricht 1943, Pennak 1953.

An East Coast species originally described from Washington, D.C., *Crangonyx shoemakeri* was erroneously reported from Illinois by several investigators.

Gammarus acherondytes Hubricht and Mackin 1940

Gammarus acherondytes Hubricht and Mackin 1940, Bousfield 1958, Nicholas 1960, Cole 1970a, 1970b, Holsinger 1972.

Described from Monroe County, Illinois, *Gammarus acherondytes* is at present known only from cave streams in Monroe and St. Clair counties, Illinois (Holsinger 1972).

Gammarus fasciatus Say 1818

Gammarus fasciatus: Forbes 1876, Weckel 1907, Holsinger 1972.

Thought to have been described from material collected in Pennsylvania, *Gammarus fasciatus* is distributed in streams in northwestern Illinois (Holsinger 1972). Although recorded by Forbes (1876) from areas in Illinois other than the northwest, these records were based on misidentifications.

Gammarus minus Say 1818

Gammarus minus: Cole 1970a, 1970b, Holsinger 1972.

Gammarus minus pinicollis Cole 1970b.

Originally described from Lancaster County, Pennsylvania, *Gammarus minus* is distributed in springs and streams in extreme western and southwestern Illinois (Holsinger 1972). Cole (1970b) described *G. m. pinicollis* from Elm Spring in the Pine Hills region of Union County, Illinois.

Gammarus pseudolimnaeus Bousfield 1958

Gammarus limnaeus: Hubricht and Mackin 1940, Hubricht 1943.

Gammarus pseudolimnaeus Bousfield 1958, Cole 1970a, 1970b, Holsinger 1972.

Widespread in streams and springs in northern, western, and southern Illinois. (Holsinger 1972), *Gammarus pseudolimnaeus* was described originally from Ottawa, Ontario.

Gammarus troglophilus Hubricht and Mackin 1940

Gammarus troglophilus Hubricht and Mackin 1940, Hubricht 1943, Bousfield 1958, Nicholas 1960, Cole 1970a, 1970b, Holsinger 1972.

Described from Monroe County, Illinois, *Gammarus troglophilus* is known from cave streams and springs in 10 counties in southwestern Illinois (Holsinger 1972).

Stygobromus iowae Hubricht 1943

Stygobromus iowae: Holsinger 1972.

Described from Fayette County, Iowa, *Stygobromus iowae* is known in Illinois only from a mine in Jo Daviess County (Holsinger 1972).

ORDER DECAPODA

FAMILY PALAEMONIDAE

Macrobrachium ohione (Smith 1874)

Palaemon ohionis: Forbes 1876, Underwood 1886.

M. ohionis: Creaser 1932.

Macrobrachium ohionis: McCormick 1934, Gunter 1937, Schmitt 1953.

Macrobrachium ohione: Hedgepeth 1949, Holthius 1952.

Originally described from the Ohio River at Cannelton, Indiana, *Macrobrachium ohione* is known in Illinois from the Mississippi and Ohio rivers.

Palaemonetes kadiakensis Rathburn 1902

Palaemonetes exilipes: Forbes 1876, Hay 1882, Creaser 1931, 1932.

Palaemonetes paludosa: Underwood 1886.

Palaemonetes kadiakensis: Holthius 1952.

According to Holthius (1949, 1952), the only species of *Palaemonetes* in the Midwest is *Palaemonetes kadiakensis*, and all references in the Illinois literature must refer to this species. Originally described from Kodiak Island, Alaska, *Palaemonetes kadiakensis* is found in sluggish water habitats throughout Illinois.

FAMILY ASTACIDAE

Cambarellus shufeldtii (Faxon 1884)

Cambarus shufeldtii: Faxon 1914.

Cambarellus shufeldtii: Brown 1955, Hobbs 1968, 1972, Hubert and Krull 1973.

Described from near New Orleans, Louisiana, *Cambarellus shufeldtii* is found in sluggish water habitats in extreme southern Illinois.

Procambarus acutus (Girard 1852)

Cambarus acutus: Hagen 1870, Smith 1874, Forbes 1876.

Cambarus stygius: Forbes 1876.

Cambarus blandingii acuta: Faxon 1885, Underwood 1886.

Cambarus blandingii acutus: Faxon 1890, 1914, Harris 1903, Creaser 1931, 1932.

Cambarus blandingii: Ortmann 1902.

Cambarus blandingii acutus: Rietz 1912, Ortmann 1931, Cralley 1932.

Procambarus blandingii acutus: Bovbjerg 1952, Brown 1955, 1959.

Procambarus acutus acutus: Hobbs 1972.

Procambarus blandingii: Hubert and Krull 1973.

Originally described from Kemper County, Mississippi, *Procambarus acutus* is common in sluggish water habitats throughout Illinois.

Cambarus stygius, described from a Lake Michigan specimen, has been considered by subsequent investigators to be a synonym of *Procambarus acutus*.

Procambarus clarkii (Girard 1852)

Procambarus clarkii: Brown 1955, 1959, Hobbs 1968, 1972.

Described from specimens collected "between San Antonio and El Paso del Norte, Texas," *Procambarus clarkii* is limited in Illinois to sluggish water habitats in the extreme southern part of the state.

Procambarus gracilis (Bundy 1876)

Cambarus gracilis: Forbes 1876, Underwood 1886, Faxon 1885, 1890, 1914, Ortmann 1902, 1905, Harris 1903, Rietz 1912, Cralley 1932, Creaser 1932, Bovbjerg 1952.

Procambarus gracilis: Brown 1955, Hobbs 1968, 1972.

Described originally from Normal, McLean County, Illinois, and Racine, Racine County, Wisconsin, *Procambarus gracilis* is a burrowing inhabitant of prairie habitats in Illinois and presumably occurs throughout the state except in unglaciated areas.

Procambarus troglodytes (Leconte 1856)

Cambarus troglodytes: Hagen 1870, Forbes 1876, Faxon 1885, Harris 1903, Rietz 1912.

Procambarus troglodytes is an Atlantic Coast species originally described from Georgia and was erroneously reported from Marshall County, Illinois, by Hagen (1870).

Oreconectes illinoiensis Brown 1956

Oreconectes illinoiensis: Brown 1955, 1956, Hobbs 1968, 1972.

Oreconectes illinoiensis: Fitzpatrick 1967.

Described from Cypress Creek, Union County, Illinois, *Oreconectes illinoiensis* is apparently endemic to streams in the hill regions of extreme southern Illinois.

Oreconectes immunis (Hagen 1870)

Cambarus immunis Hagen 1870, Smith 1874, Forbes 1876, Faxon 1885, Underwood 1886, Ortmann 1902, 1905, Harris 1903, Rietz 1912, Faxon 1914, Creaser 1931, 1932, Cralley 1932.

Faxonius immunis immunis: Creaser 1933.

Oreconectes immunis *s. pedianus*: Bovbjerg 1952.

Oreconectes immunis: Brown 1955, Hobbs 1968, 1972.

Common in sluggish habitats throughout Illinois, the type-locality of *Oreconectes immunis* was designated as Lawn Ridge, Marshall County, Illinois, by Faxon (1914).

Orconectes indianensis (Hay 1896)

Cambarus indianensis: Rietz 1912, Ortmann 1931, Creaser 1932.

Orconectes indianensis: Brown 1955, Hobbs 1968, 1972.

Described from Gibson County, Indiana, *Orconectes indianensis* is restricted in Illinois to rocky streams in the southeastern portion of the state.

Orconectes kentuckiensis Rhoades 1944

Orconectes kentuckiensis: Brown 1955, Hobbs 1972.

Described from Crittenden County, Kentucky, *Orconectes kentuckiensis* has a very small range and is limited in Illinois to rocky streams in Hardin County.

Orconectes lancifer (Hagen 1870)

Cambarus lancifer: Faxon 1914.

Orconectes lancifer: Brown 1955, Hobbs 1968, 1972.

A southern species described from Union County, Mississippi (Penn 1939), *Orconectes lancifer* is a rare sluggish water inhabitant of extreme southern Illinois.

Orconectes propinquus (Girard 1852)

Cambarus propinquus: Hagen 1870, Forbes 1876, Faxon 1885, Underwood 1886, Harris 1903, Ortmann 1905, 1931, Rietz 1912, Faxon 1914, Jewell 1920, Creaser 1931, 1932, Cralley 1932, Van Deventer 1937.

Orconectes propinquus propinquus: Bovbjerg 1952.

Orconectes propinquus: Brown 1955, Fitzpatrick 1967, Hobbs 1968, 1972.

Originally described from New York, *Orconectes propinquus* is found in rocky streams in eastern and northern Illinois.

Orconectes rusticus (Girard 1852)

Cambarus placidus Hagen 1870, Smith 1874, Forbes 1876.

Cambarus wisconsinensis: Forbes 1876, Rietz 1912.

Cambarus rusticus: Faxon 1885, Underwood 1886, Harris 1903, Ortmann 1905, Rietz 1912, Creaser 1931, 1932.

Orconectes rusticus subspecies: Brown 1955.

Orconectes rusticus placidus: Brown 1955.

Orconectes rusticus: Hobbs 1972.

Described from the Ohio River at Cincinnati, *Orconectes rusticus* is known in Illinois with certainty only from the Illinois River. Old records needing confirmation exist for other central and southern Illinois localities.

Orconectes virilis (Hagen 1870)

Cambarus virilis Hagen 1870, Smith 1874, Forbes 1876, Faxon 1885, Underwood 1886, Harris 1903, Ortmann 1905, Rietz 1912, Faxon 1914, Jewell 1920, Ortmann 1931, Creaser 1931, 1932, Cralley 1932.

Orconectes virilis: Bovbjerg 1952, Brown 1955, Hobbs 1968, 1972.

Originally described from Lake Superior, *Orconectes virilis* is widely distributed and common in rocky and sandy habitats in Illinois although rare in the southern part of the state.

Fallicambarus fodiens (Cottle 1863)

Cambarus argillicola: Faxon 1890, 1914, Harris 1903, Ortmann 1905, Rietz 1912.

Cambarus fodiens: Creaser 1931, 1932, Hobbs 1948, Bovbjerg 1952, Brown 1955.

Fallicambarus fodiens: Hobbs 1972.

Described from Ontario (Huntsman 1915), *Fallicambarus fodiens* is a burrowing inhabitant of wooded areas in eastern and southern Illinois.

Cambarus diogenes Girard 1852

Cambarus obesus Hagen 1870, Smith 1874, Forbes 1876.

Cambarus diogenes: Faxon 1885, 1914, Underwood 1886, Harris 1903, Rietz 1912, Ortmann 1931, Creaser 1931, 1932, Cralley 1932, Bovbjerg 1952.

Cambarus diogenes subspecies: Brown 1955.

Cambarus diogenes diogenes: Marlow 1960, Hobbs 1969, 1972.

A common and widely distributed burrower in Illinois, *Cambarus diogenes* was originally described from Washington, D.C.

Cambarus laevis Faxon 1914

Cambarus bartoni subspecies: Rietz 1912.

Cambarus bartoni laevis: Brown 1955.

Cambarus laevis: Hobbs 1968, 1969, 1972.

An inhabitant of springs and spring-fed streams in extreme southeastern Illinois, *Cambarus laevis* was originally described from specimens collected in Monroe County, Indiana.

Cambarus ortmanni Williamson 1907

Cambarus ortmanni: Hobbs 1968.

Originally described from Wells County, Indiana, *Cambarus ortmanni* was erroneously reported by Hobbs (1968) to occur in Illinois.

Cambarus robustus Girard 1852

Cambarus bartonii robusta: Faxon 1885, Underwood 1886.

Cambarus bartoni robustus: Harris 1903, Rietz 1912.

Cambarus robustus: Creaser 1932, Brown 1955, Hobbs 1972.

Described from near Toronto, Canada, *Cambarus robustus* has been reported from Illinois by several authors; however, if present the species is exceedingly rare, and the distribution in the state is unknown.

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